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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,279	03/28/2001	Johannes Nicolaas Bakker	NL 000171	6876

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EXAMINER

NGUYEN, LUONG TRUNG

ART UNIT PAPER NUMBER

2612

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/819,279	Applicant(s) BAKKER ET AL.	
	Examiner LUONG T NGUYEN	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 09/24/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to because of the following informalities:

In Figure 2, the input signal "YC2Cb" should be changed to --YCrCb--.

Figure 2 shows detail of 4 units: LMRU2, Motion detector, Modulation Estimator, Bandsplit LPF. Therefore, they should be labeled separately, such as FIG. 2A for unit LMRU2; FIG. 2B for unit Motion detector; FIG. 2C for unit Modulation Estimator; FIG. 2D for unit Bandsplit LPF.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the

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drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

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3. The disclosure is objected to because of the following informalities:

In the specification, there is no heading for each section.

In the specification, page 2, line 9 discloses "Figure 2 shows an embodiment of a processing unit according to the invention." However, page 2, line 20 discloses "Figure 2 shows in more detail block schematic a light modulation removal unit." Therefore, on line 9, "a processing unit" should be changed to --a light modulation removal unit--.

On page 2, line 22, "processing unit PU2 (see Fig. 1)" should be changed to --processing unit PU1 (see Fig. 1)--.

On page 3, lines 6 and 7, "amplifier AMP" should be changed to --amplifier AMP1--.

Appropriate correction is required.

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phrasing often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

5. The abstract of the disclosure is objected to because the using of "means" should be avoided in the abstract, and the abstract should be in a single paragraph. Correction is required.

See MPEP § 608.01(b).

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Claim Objections

6. Claims 3-11 are objected to because of the following informalities:

Claim 3 (line 3), "said illumination variation" should be changed to --an illumination variation--.

Claim 5 (line 3), claim 6 (line 2), claim 8 (line 3), "the averaging" should be changed to --the averaging of consecutive images--.

Claim 9 (line 1), "in claim1" should be changed to --in claim 1--;

Claim 9 (line 2), "fro any" should be changed to --for any--;

Claim 9 (line 3), "the original" should be changed to --an original--.

Claim 10 (line 1), "a camera system" should be changed to --a camera--.

Claim 11 (line 2), "the picture" should be changed to --a picture--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "the" in "the averaging step". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1, 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Toyoda et al. (US 6,630,953).

Regarding claim 1 and 10, Toyoda et al discloses a camera for recording pictures comprising an image sensor (imaging 11, Figure 2, Column 4, Lines 18-35) for receiving a picture, a processing unit (pre-processing portion 12, Figure 2, Column 4, Lines 18-35) for processing the picture and an end processing unit (main processing portion 21, Figure 2, Column 6, Lines 9-14), characterized in that the camera comprises a light modulation removal means (combination of elements 14, 15, 17A, 17B, 17C, 17D, 19, 20, Figure 2, Column 5, Lines 1-50, correcting a flicker) between the processing unit and the end processing unit for removing light modulation between different fields of the picture.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2-3, 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda et al. (US 6,630,953) in view of Callahan (US 6,380,985).

Regarding claim 2, Toyoda et al. fails to specifically disclose the light modulation removal means comprise adaptive fading means for fading between one field and at least n fields, whereby n is the repetition pattern of light modulation. However, Callahan discloses a system for resizing and anti-flicker filter in reduced-size video images, in which after one field is output and begins to fade, the other field is output to replace the fading first field. This alternating pattern results in a continual refreshing of the displayed image (Column 4, Lines 33-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Toyoda et al. by the teaching Callahan in order to let the image appears constant the viewer (Column 4, Lines 39-41).

Regarding claim 3, Toyoda et al. discloses means to calculate the lowest common multiple of the repetition period of said illumination variation and the repetition period of said picture, which lowest common multiple is used as common period to average consecutive images of said picture during recording (Column 1, Lines 15-26, Column 6, Lines 39-49).

Regarding claim 5, Toyoda et al. discloses means to estimate the modulation strength on a locality of the image (the mean luminance detector 14 calculates mean brightness (modulation strength) of the respective four divided areas of every field, Figure 2, Column 4, Lines 36-47). Callahan discloses reducing means to reduce the averaging on localities where the light

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modulation is weak (Callahan discloses after one field is output and begins to fade, the other field is output to replace the fading first field, this means that the averaging on localities is reduced, Column 4, Lines 33-45).

Regarding claim 6, Callahan discloses means to reduce the averaging on localities where the luminance component of said picture is low (Callahan discloses after one field is output and begins to fade, the other field is output to replace the fading first field, this means that the averaging on localities is reduced, Column 4, Lines 33-45).

Regarding claim 7, Callahan discloses means to exclude high spatial frequency components of the picture from the averaging step (Callahan discloses that at a high frequency the flicker is imperceptible to the human eye, the image appears constant to the viewer, Column 4, Lines 33-45).

13. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda et al. (US 6,630,953) in view of Callahan (US 6,380,985) further in view of Ohtsuka (US 6,154,258).

Regarding claim 4, Callahan discloses means to decrease the averaging of consecutive images (Callahan discloses a system for resizing and anti-flicker filter in reduced-size video images, in which after one field is output and begins to fade, the other field is output to replace the fading first field (Column 4, Lines 33-45). This means the averaging of consecutive images is decreased).

Toyoda et al. and Callahan fail to disclose a motion detector, which motion detector comprises evaluation means to evaluate the local difference between images having a field

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difference of n. However, Ohtsuka discloses a device for detecting flickers, in which an evaluation function of flicker is defined (Column 5, Line 1 - Column 6, Line 67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Toyoda et al. and Callahan by the teaching of Ohtsuka in order to detect flickers in television picture (Column 1, Lines 10-11).

14. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda et al. (US 6,630,953) in view of Callahan (US 6,380,985) further in view of Thompson et al. (US 6,489,998).

Regarding claim 8, Toyoda et al. and Callahan fail to specifically disclose means to correct consecutive images to the same temporal position using motion compensated conversion techniques prior to the averaging. However, Thompson et al. discloses an apparatus for deinterlacing digital video images comprises a deinterlacing processor which generates the interlaced video stream having reduced motion artifacts (correct consecutive images, Column 3, Lines 5-8). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Toyoda et al. and Callahan by the teaching of Thompson et al. in order to allow for the detection and reduction of motion artifacts in video images, the video image becomes much clearer and appears to be free of defects, Column 3, Lines 38-42).

Regarding claim 9, Toyoda et al. and Callahan fail to specifically disclose de-interlacing means to generated information for any missing position in the original interlaced image, using

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two images with different interlace phases and equal light modulation phases. However, Thompson et al. discloses an apparatus for deinterlacing digital video images comprises a deinterlacing processor which generates the interlaced video stream having reduced motion artifacts (correct consecutive images, Column 3, Lines 5-8). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Toyoda et al. and Callahan by the teaching of Thompson et al. in order to allow for the detection and reduction of motion artifacts in video images, the video image becomes much clearer and appears to be free of defects, Column 3, Lines 38-42).

15. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda et al. (US 6,630,953) in view of Thompson et al. (US 6,489,998) further in view of Van Rooy et al. (US 6,657,659).

Regarding claim 11, Toyoda et al. discloses a method of removing light modulation during recording pictures with an image sensor having the step of receiving the picture (imaging 11, Figure 2, Column 4, Lines 18-35), processing the picture (pre-processing portion 12, Figure 2, Column 4, Lines 18-35), removing the light modulation (combination of elements 14, 15, 17A, 17B, 17C, 17D, 19, 20, Figure 2, Column 5, Lines 1-50, correcting a flicker).

Toyoda et al. fails to specifically disclose storing different field of the picture. However, Thompson et al. discloses storing adjacent video fields in digital memory unit 59 (Figure 8, Column 4, Lines 38-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Toyoda et al. by Thompson et al. in order to store image signal.

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Toyoda et al. and Thompson et al. fail to specifically disclose averaging the different fields in dependence of motion, and/or locations with low respectively high luminance locations. However, Van Roy et al. discloses a flicker compensation for cameras, in which the average video in at least N fields can be used to compensate for flicker (Column 3, Lines 19-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Toyoda et al. and Thompson et al. by Van Roy et al. in order to correct fast flicker effect in the camera (Column 3, Lines 1-2).

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sakaguchi (US 5,204,741) discloses motion detection and image stabilizing system.

Tomaszewski (US 6,519,002) discloses method and apparatus to minimize flicker effect from a discharge light source during digital video capture.

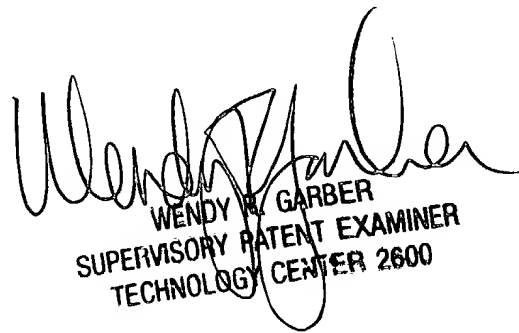
17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUONG T NGUYEN whose telephone number is (703) 308-9297. The examiner can normally be reached on 7:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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10/29/04


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